

ABSTRACT

[Abstract of the Disclosure]

An anode thin film for a lithium secondary battery including a current collector
5 and an anode active material layer formed thereon, wherein the anode active material
layer contains an intermetallic compound of tin (Sn) and nickel (Ni). In particular, the
intermetallic compound is Ni_3Sn_4 . The anode active material layer can also be a single
layer containing tin (Sn) and a metal selected from zirconium (Zr), vanadium (V),
manganese (Mn), titanium (Ti), nickel (Ni), and copper (Cu). The anode thin film can
10 considerably improve cycle characteristics by suppressing a volumetric expansion and
contraction of tin generated during the charging/discharging process. Therefore, use of
the anode thin film can greatly improve the chemical and mechanical stability of the
interface between an electrode and an electrolyte, which makes it possible to fabricate a
lithium secondary battery with improved lifetime characteristics.

[Representative Drawing]

FIG. 2